DESCRIPTION

PRODUCT COVERED:

USR, CNR - Switching - Power Supplies DC/DC Converters, Model Series PAF500F48, PAF500F24, PAF400F48 and PAF400F24, with or without suffixes.

See "ELECTRICAL RATINGS" for models covered.

GENERAL:

The products covered by this Report are switch-mode power supplies (DC to DC converters). They are provided with input and output terminals (pins) for mounting to a PWB in the end use equipment. All components are mounted on two printed wiring boards, which are placed into a plastic case and partially potted/encapsulated.

ELECTRICAL RATINGS:

	Input, dc		Output, dc	
Model	V	A	V	A
PAF400F48-12	36-76	14.5	12	33.5
PAF400F48-28	36-76	14.5	28	14.3
PAF500F48-3.3	36-76	18	3.3	80
PAF500F48-5	36-76	18	5	80
PAF500F48-12	36-76	18	12	42
PAF500F48-12/TMI	36-76	18	12	42
PAF500F48-28	36-76	18	28	18
PAF500F48-28/TFR	36-76	18	28	18
PAF500F48-12/NTL	36-76	12.5	12	29.2
PAF500F24-12	19-36	36	12	42
PAF500F24-28	18-36	36	28	18
PAF400F24-12	19-36	29	12	33.5
PAF400F24-28	18-36	29	28	14.3

Maximum Output Power: 504 W

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MODEL DIFFERENCES:

Suffix /T - Indicates that the four corner studs are not threaded; standard models, without suffix /T, include four, threaded corner studs.

Suffix /TFR - Model PAF500F48-28 only - Identical to basic model; suffix /TFR provided for customer identification only.

Suffix /TMI - Used with Model PAF500F48-12 only. This suffix is identical to the basic model with the exception of some minor, non-critical component changes.

Suffix /TC – Indicates additional adhesive between daughter board PWB and plastic case.

Suffix /V – Indicates auto restart.

Suffix /NTL – Used with Model PAF500F48-12 only. This suffix is identical to the basic model with the exception of a new coil L101 and lower operating parameters.

Suffix /C – Indicates fixing T1 with adhesive, or any combination of suffix above.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations - The following items are considerations that were used when evaluating these products.

*USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for **Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03-27**.

The components were submitted and tested for a maximum manufacturer's recommended base plate temperature of 100°C, with the exception of Model PAF500F48-12/NTL, which is 85°C.

The equipment is: for building in, Class I (earthed).

Conditions of Acceptability - When installed in the end-product, consideration shall be given to the following:

*1. These components have been judged on the basis of the required spacings (creepage and clearance distances) in the Standard for **Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03-27,** which would cover the component itself, if submitted for Listing.

2. The components shall be installed in a suitable Electrical and Fire Enclosure, in compliance with the enclosure, mounting, creepage, casualty, marking and segregation requirements of the end-use application.

3. Tests on Model PAF400F48 and PAF500F48 were conducted with, and the instructions recommend use of, an external fuse, Cooper/Bussmann, Type ABC-30, rated 30 A, 125 V (investigated for interrupting ratings of 400 A at 125 V dc and 1000 A at 75 V dc). The breaking capacity and voltage rating are subject to the end-use requirements. However, tests were conducted with a supply capable of a fault current of 1500 A.

   Tests on Model PAF400F24 and PAF500F24 were conducted with, and the instructions recommend use of, an external fuse, rated 50 A, 125 Vdc. The breaking capacity and voltage rating are subject to the end-use requirements. However, tests were conducted with a supply capable of a fault current of 300 A.

4. The equipment has been evaluated for use in a pollution Degree 2 environment.

5. The components were submitted, and tested, for a maximum base plate temperature of 100°C, in the exception of Model PAF500F48-12/NTL, which is 85°C. This temperature limit shall determine the maximum working ambient temperature. The DC to DC converters were tested with the heat sink mounted below the base plate of the converters (worst case). For location of hot spot, see Instruction Manual.

6. The output circuits are SELV and at a hazardous energy level. For 12V Models and above, when the outputs are earthed in the end use equipment they are SELV. If the outputs are not earthed they must be considered hazardous voltage as a single fault in the secondary may make the output exceed SELV limits.

7. Each power supply shall be properly bonded to the main protective earthing termination in the end-product, as the power supplies were investigated for Class I construction.

8. Transformers T101 and T102 are provided with Basic Insulation. Transformer T1 is provided with Reinforced Insulation. Fault conditions across all basic barriers have been conducted, under all possible earthing conditions, to prove SELV at the output.

9. Transformers T101 and T102 employ a Class H (180) insulation system; T1 employs a class F (155) insulation system.

*10. The input to the units must be isolated from mains by reinforced insulation, in accordance with **UL 60950-1, 2nd Edition, 2007-03-27/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03**, in order for the outputs from the dc/dc converters to be considered SELV. Due to the potential non-SELV voltages at the source to the Model Series PAF400F48 and PAF500F48 (only) dc/dc converters, the input these models must be considered a hazardous secondary voltage,

11. The input and output connectors (pins) are only intended for soldering to a printed wiring board.